

REMARKS

Reconsideration of this application is respectfully requested.

I Status of the Claims

Claims 3-7 are pending in the application.

Claims 3-7 have been rejected.

Claims 3 and 4 have been amended with no new matter added.

II Rejections Under 35 U.S.C. § 112

The Examiner has rejected claims 3-7 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

Applicants respectfully submit that the present specification currently enables the claims to an L10 life ratio greater than or equal to 3. The present specification states that the test pieces representing the present invention have been treated according to the manner of the present invention (Table 1). Thus, Applicants submit that the examples in the present specification are representative of the typical performance of the present invention under the specified experimental conditions. In the prior art cited by the Examiner (Maeda et al., U.S. Patent No. 6,158,263), several examples with 30% or greater retained austenite exhibit L10 life ratios greater than or equal to 3 as well as exceptions including those offered as Comparative Examples #1-8 in Table 1 of Maeda. Thus, the addition of retained austenite, under the proper circumstances, can produce L10 life ratios greater than 3. The current invention clearly discloses that a range of austenite between 30 and 80% can exhibit the claimed properties. Applicants submit that, in light

concavo-convex portions in random directions. AAPA fails to teach a step of carbonitriding the part.

Tsushima teaches carbonitriding a rolling bearing to extend its service life to reach a retained austenite layer from 20-40%. The Examiner notes that certain of Tsushima's examples, specifically Steel C listed in Table 2 with 25% retained austenite, fail to exhibit L10 life ratios greater than or equal to 3. The Examiner also finds fluctuations in L10 life ratio values as the amount of retained austenite is increased in Table 1 of Maeda.

Applicants respectfully traverse the above rejection. Applicants submit one of ordinary skill in the art is not taught or motivated to combine the AAPA with Tsushima and Maeda. Tsushima teaches away from the teachings of the AAPA. Tsushima states that indentations, such as those micro concavo-convex portions in the present invention and the AAPA, cause "the spalling of the raceway ... and the rolling fatigue life of the bearing is shortened" (Tsushima, column 1, lines 16-18). Further, Tsushima teaches that wear resistance of the part would be lowered to an undesirable level if the amount of retained austenite exceeds 40% (*See* Tsushima, column 4, lines 27-30). In this manner Tsushima teaches away from combination with the AAPA, which teaches both amounts of retained austenite much greater than 40% and the creation of micro concavo-convex indentations.

Maeda similarly teaches away from combination with the AAPA. Maeda states that preventing surface wear on the rolling elements is integral for increasing part fatigue life (*See* Maeda, column 1, lines 49-55). Specifically, Maeda cites the problem of surface peeling on the rollers. One of ordinary skill in the art would recognize that the micro

If there are any other issues remaining which the Examiner believes could be resolved by either a Supplemental Response or a Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

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Respectfully submitted,

By 

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